AUTUMN WARBLER HUNTING.

BY J. CLAIRE WOOD.

DESIRING to get some idea of the relative abundance of the late warblers and also to add a few to my collection, I spent September 25 and 28 and October 2, 1904, among them. Fourteen species, represented by 331 individuals, were met with. October 6 was the next date but I was only an hour in the woods. However, four species were noted represented by 11 birds. This was the last day I looked for them, but while woodcock hunting on October 16 I met with three Bay-breasted Warblers (*Dendroica castanea*) and three Black-polls (*D. striata*), and a Northern Yellow-throat (*Geothlypis trichas brachidactyla*) was flushed on October 23. This interested me in the question of how late any of the Mniotiltidæ could be found here. Local and other lists of about the same latitude in the transition zone were consulted but the data were meager and somewhat unsatisfactory; in fact, no careful work seems to have been done this far north after early October. It became evident that the only way to get a proper idea of relative abundance and time of departure was to investigate personally. I began August 20, 1905, and started with the intention of devoting all my spare time to warbler hunting until the day came when no more were seen. This was not carried out, for the reason that it took seven hours to locate the single specimen observed October 26, and convinced me that the prospect of meeting with a later bird was not worth the trouble. Prior to October 1 my observations were restricted to a small piece of timber on P. C. 49, but when the warblers became scarce I included a large piece of second growth on P. C. 31, both in Ecorse Township, Wayne County, Michigan.

The fascination of warbler collecting is in not knowing what you will find. Locality and conditions influence the method of hunting. Silence dominates the woods here from late August until the third week in September. Now and then you hear the dreamy note of a Wood Pewee (*Contopus virens*) and the monotonous warble of a Red-eyed Vireo (*Vireo olivaceus*), or a crow may

caw, a jay scream, or a squirrel chatter, and then comes a long interval of silence, unless your ear has become trained to detect the warblers, which are more or less abundant in every woods of reasonable size at this time of year. As a rule the earlier birds are silent as they rest and feed among the branches but utter one or several distinct peeps as they fly from twig to twig or tree to tree. They are an active and restless lot, and it is easier to get their location and direction of travel than to see them in the thick foliage. Knowing the woods well, I seldom tried to detect them in the dense foliage of beeches, maples, and similar trees, but made sure of the course they were taking and went ahead to the first tree with few leaves. There are many butternut trees in the P. C. 49 woods and no bird can pass through one of these without discovery. One of the best places was a dead ash standing between some beeches and a maple covered with a thick growth of grape vines. When passing this point about half of the birds would pause in this tree, not long enough for positive identification but giving ample time for a quick shot. It is best to keep as much as possible along the leeward side of the woods, as the wind will convey sounds from a considerable distance. I was once fifty feet to windward of a large company and only discovered them by seeing a bird. It is surprising what a long distance a warbler can be seen when not under cover. Few birds are so active, and a quick motion instantly catches the eye. In hunting certain woodland birds I have been most successful by quietly remaining an hour or more in each favorable place but this does not apply to the warblers. You must keep constantly moving, with frequent pauses to listen and look around. Every flock of chickadees or kinglets should be examined for they attract many warblers but travel too slowly and the warblers soon disappear ahead. When I first started to collect, many birds were lost by waiting for a better shot. Later I shot at the flash of a wing or a suspicious movement among the leaves, but this is not a method to be recommended, as birds not wanted are frequently secured, especially the vireos. Only one Yellow-throated Vireo (*Vireo flavifrons*) came to grief, but the Red-eyes (*V. olivaceus*) were constantly getting into trouble. They were very common during September, and the last specimens were secured October 12 and 15. The Blue-headed Vireo (*V.*

solitarius) was taken September 28 and October 5, and last seen on October 8. The Philadelphia Vireo (*V. philadelphicus*) was taken September 3, 10 and 24. They were most abundant on the 7th, when five were seen. The last Rose-breasted Grosbeak (*Zamelodia ludoviciana*) and the Whip-poor-will (*Antrostomus vociferus*) were noted on October 5, and the Yellow-billed Cuckoo (*Coccyzus americanus*) October 8; but these birds may have remained later, as I looked for nothing except warblers.

The general direction of warbler migration was west to east until about September 20; then the reverse till October 5, and due south after that date. The earlier birds were not in a hurry and preferred to follow the chain of woods, but the southward impulse seemed so strong in the late ones that they disregarded convenience and pleasure. At no time did the wind tend to check the migratory movement although, like other birds, the warblers are averse to flying with it. On such days they merely traveled low and, after leaving the woods, took short flights, while at other times they usually crossed the open country without a stop.

Yellow Warbler (*Dendroica æstiva*).— On July 16 I noted a large company of adult females and junior birds traveling through the tree tops in the heavy timber; the course they were taking was close to S. 26° W. Only adult males were seen after late July, and they became scarce about August 10.

Tennessee Warbler (*Helminthophila peregrina*).— This warbler does not take the same route every autumn, nor for that matter every spring. Not even a straggler was seen in 1904, but it was the most common species this season from August 24 to September 10, when the Black-poll took the lead to September 24, and was replaced by the Myrtle Warbler from that date on. Both the Mourning Warbler (*Geothlypis philadelphia*) and the Nashville Warbler (*Helminthophila rubricapilla*) were met with in 1904.

Black-throated Blue Warbler (*Dendroica cærulescens*).— Single birds were more often met with than of any other species, and no other exhibited an equal amount of curiosity. One actually came down from the top of a tall elm to inspect me. This species was one of the few exceptions where only adult males were noted on the day of its first appearance. The October 15 birds were of both sexes and all ages, but the two later records were adult females.

The last specimen was secured by chance or rather by a combination of peculiar circumstances. Early in the day I had just reached a stump in the dense second growth when out popped a female Barred Owl (*Syrnium varium*) and started away, pounding the dead twigs into a spray. For hours I carefully investigated every flock of chickadees and kinglets and all likely places where solitary warblers might occur but without success. I had given up and was working out of the woods when a large flock of kinglets was heard. It required but a moment to get their direction and going ahead of them I hung the owl in a conspicuous place. It was soon surrounded by a dozen chickadees and more than a hundred Golden-crowned Kinglets (*Regulus satrapa*). Then came that chorus of ringing music, subdued and of rare sweetness, that kinglets make when surrounding an owl, and on one occasion when a Red-tailed Hawk (*Buteo borealis*) snuggled against the trunk of a thick beech in the heart of the woods during a pouring rain. While watching them the warbler appeared.

Myrtle Warbler. (*Dendroica coronata*).— Abundant September 28, and two or three hundred could be counted any day from October 1 to 15. Just how late the last of these warblers stay is not known but probably until the first heavy snow fall. The last day afield in 1904 was November 25, and twenty-five were counted — all in one flock.

Black-poll Warbler (*Dendroica striata*).— Next to the Myrtle, this was the most common species, but not in the woods. From about September 7 to October 9 this bird was seen every morning in the shade trees in the city on my way down town. As it is a great night traveler the electric lights were the probable attraction. Neither this species nor the Black-throated Green were present in such large numbers on any one day as in 1904, when about 125 of the former were noted on September 28, and 75 of the latter on October 2.

Palm Warbler (*Dendroica palmarum*).— This bird was alone and feeding in a hickory tree on high ground bordering a marsh. This is the only autumn record for the county, though it is common in spring.

Northern Yellow-throat (*Geothlypis trichas brachidactyla*).— This species may occur much later than noted by me, as I was not

1905.	August 19.	August 20.	August 24.	August 27.	Sept. 3.	Sept. 7.	Sept. 15.	Sept. 28.	Oct. 5.	Oct. 8.	Oct. 12.	Oct. 15.	Oct. 19.	Oct. 22.	Oct. 26.	Most Abundant.	No. Seen.
Black and White Warbler (*Mniotilta varia*)									2	*1		*1					
Golden-winged Warbler (*Helminthophila chrysoptera*)		*1															
Tennessee Warbler (*Helminthophila peregrina*)		*3									*3					Sept. 7	26
Western Parula Warbler (*Compsothlypis americana ramalinæ*)											*6					Oct. 12	6
Yellow Warbler (*Dendroica æstiva*)	1																
Black-throated Blue Warbler (*Dendroica cærulescens*)					*3				*8	*12	*2	*10	*1		*1	Oct. 8	12
Myrtle Warbler (*Dendroica coronata*)							1									Oct. 8	225
Magnolia Warbler (*Dendroica maculosa*)						*1			*2							Sept. 24	8
Cerulean Warbler (*Dendroica cerulea*)			*20														
Chestnut-sided Warbler (*Dendroica pennsylvanica*)					*15												
Bay-breasted Warbler (*Dendroica castanea*)					*7			*3								Sept. 3	7
Black-poll Warbler (*Dendroica striata*)					*3				3	*1			*1			Sept. 7	18
Blackburnian Warbler (*Dendroica blackburnæ*)		*1					*5									Sept. 3	28
Black-throated Green Warbler (*Dendroica virens*)				*1					*22	2	3	*3		*3		Oct. 5	22
Palm Warbler (*Dendroica palmarum*)						*1										Sept. 7	1
Ovenbird (*Seiurus aurocapillus*)									3	6	1	1					
Water-Thrush (*Seiurus noveboracensis*)					1					1							
Connecticut Warbler (*Geothlypis philadelphia*)					*3							1				Sept. 3	3
Northern Yellow-throat (*Geothlypis t. brachidactyla*)										3	*2		1				
Canadian Warbler (*Wilsonia canadensis*)		*1			5*											Sept. 3	5
American Redstart (*Setophaga ruticilla*)									*1								

in the right kind of territory. My specimens were found by beating the weeds bordering a roadway through the P. C. 49 woods.

The preceding list gives the date of the last summer residents and the number seen; also first and last date, with the number seen of the transient species, together with date of greatest abundance and the number; also everything noted after October 1 except the city Black-polls. As a bird in the hand is a positive record, beyond all possibility of dispute, a * indicates that one or more were taken on the date to which it is prefixed. I regret that the last Connecticut Warbler was not a positive record. I was resting in the thick undergrowth when the bird came directly toward me and alighted on a log not fifteen feet away. At that distance it would have been ruined for a specimen, and while I was trying to back away it took wing and disappeared.